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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/766,806

01/30/2004

Takao Saito

115556

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25944

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03/10/2006

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EXAMINER

CHEN, BRET P

ART UNIT

PAPER NUMBER

1762

DATE MAILED: 03/10/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/766,806

Applicant(s)

SAITO ET AL.

Examiner

B. Chen

Art Unit

1762

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 14 December 2005.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-9 is/are pending in the application.
- 4a) Of the above claim(s) 5-8 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-4 and 9 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____

Art Unit: 1762

DETAILED ACTION

Claims 1-9 are pending in this application. Amended claim 1 and newly added claim 9 are noted.

The amendment dated 12/14/05 has been entered and carefully considered. The examiner appreciates the amendment to the abstract, title, and claims. In view of said amendment, the objection to the abstract, title and the previous art rejection have been withdrawn.

Election/Restrictions

Applicant's election with traverse of claims 1-4, 9 in the reply filed on 12/14/05 is acknowledged. The traversal is on the ground(s) that the apparatus cannot be used for etching because the apparatus is not arranged for etching. This is not found persuasive because a plasma etching apparatus can contain a chamber, a supply hole for injecting gas, and a bias voltage for the substrate, all requirements in apparatus claim 5.

The requirement is still deemed proper and is therefore made FINAL.

Claims 5-8 are withdrawn from consideration as being directed to a nonelected invention.

Claim Rejections - 35 USC § 112

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claims 1-4, 9 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

In claim 1, the phrase “applying a pulse voltage from a high voltage pulse source on said substrate without substantially applying a direct bias voltage from a direct current source” is deemed vague and confusing. By definition, applying a bias to a substrate requires applying a voltage. It is not clear how a voltage pulse can be applied to a substrate without applying a direct bias voltage. Clarification and, if necessary, appropriate amendments are requested.

Claim Rejections - 35 USC § 103

The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

Claims 1-4, 9 are rejected under 35 U.S.C. 103(a) as being unpatentable over Mashima et al. (2002/0056415). Mashima discloses a method of producing electronic devices by forming a semiconductor film by plasma chemical vapor deposition (paragraph 3). The apparatus contains a vacuum vessel having first and second pairs of opposed electrodes provided therein; a gas inlet for introducing a material gas into the vacuum vessel; and first and second power sources for applying first and second high frequency voltages between the pairs (paragraph 12). To cause plasma discharge, the first and second high frequency voltages are modulated in pulse waves (paragraph 13). Specifically, a pulse modulated high frequency voltage is applied (paragraph 14). It is noted that there is no mention of a direct current bias voltage. The plasma is then used to form a film on the wafer (paragraphs 20-25). However, the reference fails to teach an inner wall surface of a substrate.

It is noted that the reference fairly teaches the use of substrates (paragraphs 31,36) and that those substrates can be wafers (paragraph 21) which appear to be flat (paragraph 42 and

Art Unit: 1762

Figure 1). One skilled in the art would realize that other substrates with different geometric configurations could be utilized depending on the desired final product. It would have been obvious to utilize a substrate with an inner wall in Mashima's process with the expectation of obtaining similar results because Mashima teaches the successful deposition onto a flat substrate.

The limitations of claims 2-4 and 9 have been addressed above.

Yau et al. (4,837,185) has been provided as relevant art.

Response to Arguments

Applicant's arguments with respect to claims 1-4, 9 have been considered but are moot in view of the new ground(s) of rejection.

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event,

Art Unit: 1762

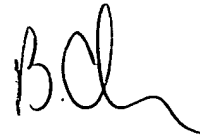
however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to B. Chen whose telephone number is (571) 272-1417. The examiner can normally be reached on 7:30am - 4:00pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Timothy Meeks can be reached on (571) 272-1423. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Bc
3/6/06

A handwritten signature in black ink, appearing to read 'B. Chen', with a stylized flourish at the end.

BRET CHEN
PRIMARY EXAMINER